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ABSTRACT

This report presents the San Jose/Evergreen Community College District information systems technology plan. It outlines the following five global objectives: (1) develop an information technology infrastructure to support and facilitate administration, instruction, and student services; (2) establish electronic communications as the basis for staff and student correspondence; (3) provide access to district-wide information for students and staff by involving end-users in planning information dissemination and information retrieval; (4) establish campus and district technology and training support organizations; and (5) develop curricula, instructional strategies, and tools to enhance student learning through the use of technology. These five global objectives provide the structure for the remainder of the report, which offers the following sections: (1) infrastructure; (2) communications; (3) access; (4) support; and (5) learning. Each of these five sections outlines individual objectives, which are further subdivided into four parts: (1) requirements; (2) recommended solutions; (3) cost estimates to implement; and (4) actions. (VWC)

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Information Systems Technology Planning

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San Jose/Evergreen Community College District
Information Systems Technology Planning

Global Objectives

- ❑ Develop an information technology infrastructure to support and facilitate administration, instruction, and student services
- ❑ Establish electronic communications as the basis for staff and student correspondence
- ❑ Provide access to district-wide information for students and staff by involving end-users in planning information dissemination and information retrieval
- ❑ Establish campus and district technology and training support organizations
- ❑ Develop curricula, instructional strategies, and tools to enhance student learning through the use of technology

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INFRASTRUCTURE

Develop an information technology infrastructure to support and facilitate administration, instruction, and student services

INFRASTRUCTURE — OBJECTIVE 11

By Fall 1996, district will update the network design to accommodate the objectives of this planning session. The design will address:

- Accessibility
- Costs to implement
- Support staffing estimates
  - ♦ Priority A
  - ♦ Responsibility to Expand —Bob Feinour

A—REQUIREMENTS

- Client/server based network
- Dedicated T1 from SJCC to the District Office for NT-TCP/IP traffic
- Ethernet (hubs, routers, bridges and switches) to link the NT user community to WAN resources
- PPP/Slip server
- Seamless access/single point of entry to WAN
- Printing facilities integration and upgrade
- Access to client/server based applications
- Mail server
- SNA server
- SMS server
- SQL server
- RAS server
- Separate inter vs. intra networks
- Expand dial-in access (28.8 Kbps)
- Utility infrastructure capable of supporting electrical demands

B—RECOMMENDED SOLUTIONS

- Upgrade current asynchronous Develnet to include Ethernet capability
- Upgrade SJCC link from a fractional T-1 for Data to 2 maxed T-1 for data
- Establish seamless resources, district-wide, in the following areas using Windows-NT and Unix-SCO network band solutions:
  - ◊ Mail Exchange (Post Office)
  - ◊ Seamless access to any WAN resource
  - ◊ Printer facilities as a WAN resource
  - ◊ Remote access to any WAN resource

C—COST ESTIMATES TO IMPLEMENT

EVC	81,000
SJCC	98,000
DO	87,000
TOTAL	$266,000

SUPPORT STAFF

- Staffing level under study, i.e., network administrator, help desk, location, etc.

RECOMMENDED SERVER CONFIGURATION/SOFTWARE*

(Approximately $4,500.00 per server. Costs included in estimates to implement.)

• Processor and clock speed	-Pentium 166mhz or better
• Bus type supported	-EISA, PCI
• Number of processors supported	-2 to 8
• Type of multiprocessor supported	-symmetrical
• Slot availability	-6 to 8 32 bit slots
• Max amount of RAM	-512MB
• Cache size	-512KB
• NOS's supported	-UNIX, SCO, Netware, NT
• Disk controller supported	-SCSI-2, Fast wide
• Drive bays supported	-7 Full height
• Scalability	-required

** Server configuration performance to be reviewed semi-annually*

D—ACTIONS

- Develop RFP
- Select proposal and award contract

INFRASTRUCTURE — OBJECTIVE 12

By June, 1998, develop a strategy for maintaining a competitive level of technology, facilities, staff skills, and programs and an on-going financial plan to maintain this level.

- Priority A
- Responsibility to Expand—Campus Technology Committees

A—REQUIREMENTS

- Maintain a competitive technology infrastructure
- Identify and maintain competitive technology and facilities to support student services, instructional programs, and administrative functions necessary to fulfill the missions of the colleges and district
- Establish campus-wide facilities equipped with competitive technology and equipment
- Identify, develop, and promote on-going training necessary to maintain a highly skilled work force
- Establish migration planning procedures to implement software and hardware upgrades to current industry standards
- Help desk

B—RECOMMENDED SOLUTIONS

- Funding for technology to be given high priority
- High-level administration to take lead in seeking corporate as well as other outside funding and support for technology equipment
- Funding should be allocated for each of the following areas:
  - facilities
  - student services and instructional programs
  - hardware and software
  - support
  - district and/or campus grant writer (development officer) who will obtain "non-fund 10" dollars for competitive technology equipment
  - ongoing training in development, use, and maintenance of technology and equipment

C—COST ESTIMATES TO IMPLEMENT

- Ultimate costs to be determined. However, in the multi-year budget model, it is anticipated that the annual allocation for technology will grow to at least one million dollars by the year 2002.

D—ACTIONS

- Establish life expectancy and depreciation schedule for all technology and equipment
- Establish an annual equipment replacement schedule
- Develop proposal for budget committee to establish technology allocations
- Recruit volunteers from the corporate sectors to aid in implementing identified aspects of the Technology Master Plans
- Identify training costs—establish ongoing training and support programs to meet this objective

INFRASTRUCTURE — OBJECTIVE 15

By December 1997, identify potential areas and strategies for industry involvement, support and funding.

- Priority A
- Responsibility to Expand—Henry Gee, Henry Estrada

A—REQUIREMENTS

- Partnerships with business and industry, academia, government, and other non-profit agencies so the District can leverage its resources in the areas of instruction, administration, and student services

B—RECOMMENDED SOLUTIONS

- Involve staff in collaboratives such as Workforce Silicon Valley that include possible partners with business, academia, government, and other non-profit agencies
- Develop partnerships with industry such as the partnership with Intel
- Network through the SJ/ECCD Institute for Business and Community Development

C—COST ESTIMATES TO IMPLEMENT

- None the first year
- Re-evaluation needed for second year and beyond

D—ACTIONS

- Identify additional staff from the district to participate in Workforce Silicon Valley and similar collaborative efforts
- Encourage faculty participation in industry internships such as IISME
- Develop idea team to identify possible business and industry partnerships

INFRASTRUCTURE — OBJECTIVE 14

By November 1, 1996, establish a set of preferred standards for hardware and software for SJ/ECCD. These standards will cover such topics as:

- PC configurations and software
- Server configuration and software
- E-mail access
- Internet and web access software
- Office software (word processing, spreadsheet, etc.)
  - Priority A
  - Responsibility to Expand—Bob Feinour and Campus Technology Committees

A—REQUIREMENTS

- Process to test and install software and hardware
- Virus protection
- PC hardware and software configurations
- SVGA Monitor (15" or larger)
- Capable of running Microsoft Professional Office 95 or comparable
- Capable of multimedia (audio, full-motion video, image)
- CD-ROM
- Ethernet direct attached
- Full support of all functions for PC; Subset of functions for Mac (Internet, mail, etc.)
- Office software to include word processing, spreadsheet, database, communication
- E-mail (compatible with Microsoft Exchange)
- Internet/intranet access (Netscape, Microsoft Explorer)
- Server hardware and software configurations
- Standard post office on mail server
- Capable of running web server
- Netscape preferred
- File transfer capability

B—RECOMMENDED SOLUTIONS

- Establish Netscape and Microsoft Explorer as standard Internet browsers
- Support requirement: compatibility with Microsoft Exchange
- Publish district-wide standards for purchasing appropriate technology
- Solutions from support objective S5, user friendly interface administrative system
- Install desk top (PC) products on clients
- Netsoft PC to host communications
- Microsoft Office Professional
- Mozart (GUI)
- Monarch
- Decision Analyzer (Windows-based front-end interface to mainframe or server data)

C—COST ESTIMATES TO IMPLEMENT

- To be determined

D—ACTIONS

- All acquisitions to be consistent with above standards
- Campus Technology Committees with district Information Services to create an approved list of products to be supported; list to be updated as needed
- Service level agreement will identify levels of support (support objective S4, support staff)
- Develop a process, implementation, and testing facility for testing new products prior to approval (test bed environments at the campus level and district level)
- Procedures for adding and testing new software to be available through the intranet

INFRASTRUCTURE — OBJECTIVE 15

By December 1997, develop a recommendation for a recognition and reward program for innovators in technology.

- Priority A
- Responsibility to Expand—Campus Technology Committees

A—REQUIREMENTS

- Enable and encourage all staff and students to develop innovative programs using technology
- Reward and recognize initiative and effort

B—RECOMMENDED SOLUTIONS

- Provide incentives
- Utilize intranet web page with latest updates on who is creating what and how it will be used

C—COST ESTIMATES TO IMPLEMENT

- Cost will be determined once guidelines are established

D—ACTIONS

- Develop intranet web page
- Establish guidelines for incentive program
- Announce program in campus communications

INFRASTRUCTURE — OBJECTIVE 16

By March 1997, provide wiring at each SJ/ECCD staff desk to allow for easy hookup to district-wide network

- Priority A
- Responsibility to Expand— Bob Feinour

A—REQUIREMENTS

- Expand current number of concurrent users from 400 to 850
- Provide all new Ethernet access

B—RECOMMENDED SOLUTIONS

- Increase the number of ports in the appropriate intermediate distribution frame and the corresponding main distribution frames
- Upgrade all sub-frames to Ethernet capability

C—COST ESTIMATES TO IMPLEMENT

- Included in infrastructure objective 11, network design

D—ACTIONS

- Develop RFP
- Select proposal and award contract
- Some peripheral sites will be evaluated and addressed individually
- Explore the use of wireless connections

INFRASTRUCTURE — OBJECTIVE 17

By July 1, 1997, evaluate and recommend a forms creation and management system to handle common forms requirements for the district. (Lotus Notes, Collabra, etc.)

- Priority B
- Responsibility to Expand—Bob Feinour and Jon Kangas

A—REQUIREMENTS

- Intelligent electronic forms software capable of automating our traditional business processes
- Compatible with our current client/server environment (MS Office)
- Compatible with our current efforts in our Internet/intranet
- Capable of audit trail and document tracking
- Capable of restricted access
- Microsoft Access certified
- User friendly
- Support 1,200 concurrent users

B—RECOMMENDED SOLUTIONS

- Evaluate feasibility of using Lotus Notes, Collabra or Microsoft Exchange Server Applications/Forms designer

C—COST ESTIMATES TO IMPLEMENT

• Lotus Notes	$50 per workstation	$30,000
• Collabra	$72 per workstation	$43,200
• MS Exchange	0–Currently installed	
• Contract programmer/instruction	$3,000	

D—ACTIONS

- Pilot MS Exchange with a major user, i.e., Human Resources, Reprographics, Bookstore, etc.
- Recommend a cost-effective solution district-wide

COMMUNICATIONS

Establish electronic communications as the basis for staff and student correspondence

COMMUNICATIONS — OBJECTIVE C1

By August 1997, establish electronic communications as the basis for staff correspondence

- Priority A
- Responsibility to Expand—Mike Hill

A—REQUIREMENTS

- Hardware and software that will facilitate an easy to use, reliable e-mail system
- Access by all regular staff to allow for internal e-mail communications as a district-wide, standard tool

B—RECOMMENDED SOLUTIONS

- Complete infrastructure items I1, network design, and I6, network at staff desks, and support objective S3, computers in staff offices and staff development center
- Train staff on use of e-mail system
- Initiate use of e-mail system for a variety of official communications to encourage staff use
- Replace, when possible, paper communication with e-mail

C—COST ESTIMATES TO IMPLEMENT

- Costs are included in infrastructure objectives I1, network design, and I6, network at staff desks, and support objective S3, computers in staff offices and in teacher/staff development center
- Training costs are included in support objective S4, support staff, and as part of services provided by District Information Services

D—ACTIONS

- Implement solutions identified above
- Schedule training as individuals are connected to the WAN
- Initiate use of the e-mail system broadly

COMMUNICATIONS — OBJECTIVE C2

By November 1997, provide all currently registered Spring 1998 students e-mail ID's and access to e-mail.

- Priority A
- Responsibility to Expand—Bob Feinour

A—REQUIREMENTS

- Selected classroom access
- Selected campus-wide access
- Dial-in from home, excluding Internet access
- Pseudo name services
- Organizational communications vehicle
- Faculty/student communications vehicle
- Automatically remove students not currently enrolled
- Maximize resource availability through managed accounts

B—RECOMMENDED SOLUTIONS

- Upgrade cable plant facility to accommodate traffic
- Establish individual campus/district mail servers
- Develop policy for student dial-in access (project team—CTCs with student involvement)
- Develop procedures for managing student accounts
- Develop policy for acceptable student use of Internet

C—COST ESTIMATES TO IMPLEMENT

- Cost for student infrastructure upgrade included in infrastructure objective I1, network design
- Cost for student accounts undeterminable at this time; estimate from $20,000 to $27,000 per campus
- Cost for additional student access terminals and infrastructure, $2,500 per unit

D—ACTIONS

- Develop specifications for cable plant upgrade and bid
- Information Systems, in conjunction with CTC's and student representatives, develop one set of use parameters and procedures
- Identify, fund, and schedule additional student access locations

ACCESS

Provide access to district-wide information for students and staff by involving end-users in planning information dissemination and information retrieval

ACCESS — OBJECTIVE A1

By May 1997, establish an internal web server and staffing for a webmaster for information source applications.

- Priority A
- Responsibility to Expand — Bob Feinour, and Campus Technology Committees

A—REQUIREMENTS

- Access to current and timely information related to campus
- Ability to quickly and efficiently inform others and get feedback from internal community on campus matters (bulletin board, etc.)
- Mechanism to facilitate creative and innovative interactions (discussion database or collaborative software application)
- Archive important campus information
- Maintain integrity on the intranet—items on the web need to have consistent look and feel and acceptable content
- All contents are to be dated and maintained in a current and accurate form
- All contents can only be input and updated by the designated subject matter expert
- Coordination of web contents

B—RECOMMENDED SOLUTIONS

- Establish web server(s)
- Identify and assign/hire webmaster
- Identify and assign subject matter experts

C—COST ESTIMATES TO IMPLEMENT

• Support costs included in support objective S4, support staff		
• Two servers	$10,000	
• Contract services	$40,000	to $45,000
• Release time for both campuses	$36,000	
	$86,000	to $91,000

D—ACTIONS

- Size and purchase servers
- Define job scope of webmaster
- Evaluate release time and contract services needed to develop and manage web site

ACCESS — OBJECTIVE A2

By February 3, 1997, develop a set of requirements for student access to information and a plan for delivering this information. This information shall include such items as:

- public/generic data about the colleges and educational programs
- private student information available with student log-in and password
- the ability to collect input data and requests directly (forms system)
- Student Survival Guide
  - ♦ Priority—A
  - ♦ Responsibility to Expand—Campus Technology Committees and students

A—REQUIREMENTS

- Public generic information requirements including, but not limited to the following
  - ◊ Student services
    - Financial aid
    - Job placement
    - Health services
    - Disabled Students Program
    - Extended Opportunity Program and Services
    - Re-Entry
    - Gain
    - Transfer/Career Center
    - Testing Center
    - Student postings
    - Student classifieds
    - Child care
    - Food services
    - Associated students
    - Special programs
    - Counseling
    - Admissions and Records
    - Foreign students
    - New student orientation
    - Enrollment information
    - Fees, tuition
  - ◊ Instructional services
    - Catalog
    - Schedule of classes (current and subsequent semester, including mini-semester, open entry classes, summer, etc.)
    - Open computer labs
    - Library
    - General education requirements
    - Course syllabi
    - Finals schedule
    - Textbooks
    - Book loans
    - Major requirements
    - Graduation requirements

- Grievance procedures
- Scholarships
- How to challenge a course
- Which courses may be challenged

◊ Campus and district information
- Campus newspaper
- Staff information (biographies, room number, office hours, phone numbers, schedules, e-mail addresses, etc.)
- Room and equipment scheduling
- Calendar of events
- Calendar and location of meetings
- Minutes of staff district/campus committee meetings and student organization/club meetings
- Evaluation forms
- Bookstore, including textbook status
- Suggestion/comment forms
- District and campus policies and procedures
- On-line campus news
- Student organizations/clubs
- Campus profile
- Map with room numbers, office hours, and phone numbers of offices
- On-line forms
- Safety and security issues
- Parking lot locations and parking permit information
- Non-campus events

• Authorized access information
◊ Personal information access should be developed in concert with support objectives S6, student services system, and S7, new registration system, as a non-public system
◊ Students should be able to access the following personal information:
- class schedule
- transcript and grades
- education plan
- name and/or address change
- e-mail address, home address, phone number, name, major, etc.
- holds, fines, fees
- financial aid/work study amounts
- placement test scores

◊ Information should indicate date of last update
◊ Information should be available from terminals on campus
◊ Controlled local printing to secure area (pay like ATM machine) should be available

B—RECOMMENDED SOLUTIONS

- Intranet for public access requirements
- Menu-driven access to student service systems for authorized access information requirements

C—COST ESTIMATES TO IMPLEMENT

- Investigate cost of controlled printing system
- Cost of supplies
- Staff support to create and maintain information and access

D—ACTIONS

- By Fall 1997 create an initial project team of students and staff (subject matter experts) to identify specific objects which should be in public generic information (see support objectives S6, student services system, and S7, new registration system)
- By Fall 1997 identify a schedule of implementation for public generic information intranet access
- By Fall 1997 identify related equipment, location, and support
- By Spring 1998 implement a pilot for the student personal information database

ACCESS — OBJECTIVE A3

By Spring 1998, assure 1/5 to 1/3 of all classrooms have access to Internet via local area network.

- Priority A
- Responsibility— Bob Feinour and Media Services

A—REQUIREMENTS

- Outlet for a telephone and three WAN connections per classroom (standard configuration for district wiring)

B—RECOMMENDED SOLUTIONS

- Upgrade Cable Plant Facility for Ethernet connections to all sub-frames
- Establish service level for number of concurrent users

C—COST ESTIMATES TO IMPLEMENT

- SJCC classrooms identified for Fall 1996 Internet use are included in costs of infrastructure objective I 1, network design
- Additional classrooms—$450 per room
- Phone system upgrade may be required

D—ACTIONS

- Campus needs to identify and prioritize classrooms
- Develop RFP
- Select proposal and award contract

ACCESS — OBJECTIVE A4

By Fall 1997, provide capability for students to access any instructional software from any network computer on any campus capable of running the software.

- Priority B
- Responsibility to Expand—Bob Feinour and Media Services

A—REQUIREMENTS

- Client/server-based auto-load metering software
- Reporting capabilities to meet vendor reporting requirements in a real time on demand environment
- User friendly interface when capacity is reached
- Auto index when copies are released
- Time-dependent

B—RECOMMENDED SOLUTIONS

- Install a distribution file server on the WAN
- Install Windows NT Backoffice

C—COST ESTIMATES TO IMPLEMENT

• One file server per campus	$7,000 each
• Network software	$1,800 each
• Installation and configuration	$3,000 total

D—ACTIONS

- Develop specifications
- Identify software to be distributed
- Solicit and evaluate proposals and award contract

ACCESS — OBJECTIVE A5

By June 1998, develop an on-line staff survival guide and implement on the Intranet. (Web/Home Page/etc.)

- Priority C
- Responsibility to Expand—Campus Technology Committees

A—REQUIREMENTS

- Provide information directly, or links to, the following types of information:
- Policies and procedures
- Human resources
- Emergency procedures and policies
- Campus/district services
- Technical support
- All calendars
- Contracts
- Forms
- College directory
- Organization chart
- Links to Internet sites (for example)
  - County Office of Education
  - State Offices
  - San Jose City College
  - FACCC—also under FA on intranet
  - CSEA
  - CCCCS
  - California State University system, University of California system
  - CALSAC
  - Community College System
  - ACCA
  - Ed Code

B—RECOMMENDED SOLUTIONS

- Establish the necessary information and links on our intranet web server
- Develop guidelines to delineate those items appropriate for placement on the intranet versus placement in public folders within the e-mail system

C—COST ESTIMATES TO IMPLEMENT

- Approximately $50,000

D—ACTIONS

- Gather and organize information
- Establish web pages and links
- Convert historical information to editable text
- Maintain and update as necessary
- Create public folders
- Staffing needs to be considered as outlined in support objective S4, support staff

SUPPORT

Establish campus and district technology and training support organizations

SUPPORT — OBJECTIVE S1

By 1999, upgrade, modernize, and expand/increase the current labs to conform to the SJ/ECCD approved hardware and software standards.

- Priority A
- Responsibility to Expand—Campus Technology Committees

A—REQUIREMENTS

- State of the art labs capable of running the latest application software, operating systems, to include networking, multimedia, etc.
- Selected teaching labs will have teacher multimedia stations including full-motion video, SVGA data projector, speakers, and large viewing screen
- Each computer station should have space for reading and writing area
- Ergonomic furniture and lighting

B—RECOMMENDED SOLUTIONS

- Assure funding priorities assigned each year to lab upgrades

C—COST ESTIMATES TO IMPLEMENT

- Estimate $250,000 per campus per year

SJCC	250,000
EVC	250,000
	$500,000

- Multimedia teaching station costs approximately $10,000–$15,000 each

D—ACTIONS

- Develop inventory of current labs and assess the resources
- Identify and prioritize the upgrade needs
- CTC's develop longitudinal budget projection and schedule upgrades

SUPPORT — OBJECTIVE S2

By December 1996, provide all computer labs with Internet access.

- Priority A
- Responsibility to Expand— Campus Technology Committees, Bob Feinour, and MediaServices

A—REQUIREMENTS

- Internet requirements
- Web browser
- Netscape preferred (classroom standard), Microsoft Explorer
- Full Internet function - telnet, ftp, gopher, etc.
- Routing capability
  - blocking sites
  - segmenting network
- Local printing (with controls)
- Saving files (include floppy)
- Establish student accounts
- Common and related requirements
- Firewall separation of students and staff
- Internet training
- Plug-ins, i.e. Acrobat
- Automated tutor
- Chat function/intranet accessible—secured chat
- Zip/unzip capability
- Translators to/from MAC/PC
- Capability to handle hi-speed graphics (java, shockwave, et. al.)
- Virus protection

B—RECOMMENDED SOLUTIONS

- Upgrade fractional T-1 at SJCC
- Upgrade sub-frames/intermediate and main distribution frames for Ethernet/fast Ethernet access
- Upgrade browser features as necessary

C—COST ESTIMATES TO IMPLEMENT

- All labs currently identified are included in the infrastructure upgrade in infrastructure objective **I** 1, network design
- Costs for support are identical to those mentioned in infrastructure objective **I** 1

D—ACTIONS

- Develop RFP for infrastructure upgrade
- Select proposal and award contract

SUPPORT — OBJECTIVE S3

By June 30, 1997, provide PC's in all offices, as well as provide access to computers in the teacher/staff development center.
By 10/1/96, provide 33%
By 1/1/97, provide 67%
By 6/97, provide 100%

- Priority A
- Responsibility to Expand—Campus Technology Committees

A—REQUIREMENTS

Offices

- PC capable of running Microsoft Professional Office 95, Microsoft Network, Microsoft Exchange
- PC capable of being connected to an NT Server
- PC capable of accessing a network printer
- PC capable of being connected to the district WAN
- Space and computer capabilities need to be provided for adjunct faculty and part-time staff
- Utility infrastructure capable of supporting electrical demands
- Teacher/Staff Development Center
- PC capable of performing multimedia functions—sound, video, graphical images, large files, photographs, etc.
- Access to scanner, laser disk player
- Access to high-capacity storage devices
- Provide monitored environment for high-end multimedia systems
- Access to color printer
- Additional computer to be used primarily for word processing

B—RECOMMENDED SOLUTIONS

- Acquire computers for all offices
- Acquire computers and provide work space for adjunct faculty and part-time staff
- Provide space for teacher/staff development center—large enough to handle the computers and necessary peripherals for multimedia stations

C—COST ESTIMATES TO IMPLEMENT

- Networking costs (costs included in infrastructure objective I1, network design)
- Costs of computers and software for staff offices: $215,000 estimate for EVC, $170,000 estimate for SJCC
- Multimedia equipment (costs included in student learning objective L2, instructional technology degree/certificate program)
- Peripherals for multimedia system (costs included in L2)
- Software for multimedia system (costs included in L2)
- Documentation for multimedia system (costs included in L2)

D—ACTIONS

- Configure office systems (see infrastructure objective I 4, hardware/software standards, for configurations)
- Configure multimedia system (see student learning objective L3, classroom multimedia support, for configuration)
- Find space for teacher/staff development center
- Complete network infrastructure

SUPPORT — OBJECTIVE S4

By December 1997, develop job description(s), organization placement and justification for end-user, technology support and initiate a hiring process. Support will include usage, training, and installation and shall be co-located with user groups wherever possible.

- Priority A
- Responsibility to Expand—Campus Technology Committees

A—REQUIREMENTS

- Support needs to be able to
  - install new and upgraded equipment
  - install application and system software
  - maintain software
  - troubleshoot; provide diagnostics
  - provide help desk support
  - install and maintain the campus networks including student labs and staff offices
- System support to be provided for the web server and its links to student access terminals
- Coordinate Internet and intranet activities
- Maintain student accounts on mail server
- Maintain Help Desk - Information Center - one-stop shopping - phone, e-mail, on-line computer-based training
  - Knowledge-based software
  - Remote access software to monitor computer of user requesting help
  - Database of previous problems and solutions—FAQs (frequently asked questions)
- Computer support at user level—to install computer hardware/software
- Provide basic level training for hardware, software and e-mail package
- Create and maintain Internet and intranet home pages with consistent style and quality appearance
- Work with subject matter experts for information update to provide optimum service
- Training for basic level of Internet and intranet use
- Develop subject matter technical liaisons

B—RECOMMENDED SOLUTIONS

- Reassign existing personnel
- Provide training for personnel
- Outsourcing
- Consultants
- Define support responsibilities via service level agreements

C—COST ESTIMATES TO IMPLEMENT

- Funding for training
  - ◊ Trainer fee $4,000 (8hrs/month x 12 months=96 hours@$40/hr)
  - ◊ Training material $4,000 (400 pieces of training document @$10)
- Staff development funds
- Consultants
- Help desk software
- Additional regular staff

D—ACTIONS

- Develop service level agreements and distribute district-wide
- Review staff resources and redirect where possible, modifying job descriptions as necessary
- Develop authorized list of outsource vendors as augmentation to in-house support staff
- Identify specific training needs and sequencing, and hire trainers as needed
- Where appropriate, allocate new on-going technology funding for new support staff positions, design job descriptions, hire personnel

SUPPORT — OBJECTIVE S5

By June 1997, develop a plan to provide a new, user friendly interface to current administrative systems.

- ♦ Priority A
- ♦ Responsibility to Expand—Bob Feinour, Jon Kangas, V.P.'s

A—REQUIREMENTS

- Reduce transaction processing time
- No mainframe changes
- No mainframe software
- Front end application
- Full 32-bit implementation
- Runs on Windows, Win95, and Windows NT
- Full GUI
- Pass-through emulation
- ODBC Compliant
- Access mainframe VSAM Files
- Client server/mainframe transparent

B—RECOMMENDED SOLUTIONS

- Install desk top (PC) products on clients
- Netsoft PC to host communications
- Microsoft Office Professional
- Mozart (GUI)
- Monarch
- Decision Analyzer (Windows-based front-end interface to mainframe or server data)

C—COST ESTIMATES TO IMPLEMENT

- Approximately $47,000 for 175 concurrent users

D—ACTIONS

- Evaluate software
- Test and install viable product

SUPPORT—OBJECTIVE S6

By June 1998, develop requirements for an on-line, interactive system for orientation, counseling, student assessment and financial aid.

- Priority A
- Responsibility to Expand—Audre Levy and student support services

A—REQUIREMENTS

- Hardware consistent with infrastructure objective **1**4, hardware and software standards
- Software program to provide
  - ◊ Access from any designated terminal on campus
  - ◊ Accountability of student's completion of processes, such as orientation, financial aid, etc.
  - ◊ Internet access (dial-in capability)
  - ◊ Tracking of contacts and responses
  - ◊ Capacity to query data
  - ◊ Security for private data
  - ◊ Mainframe access
  - ◊ Storage of collected data

B—RECOMMENDED SOLUTIONS

- Allow students to access the following from computers or kiosks on campus, internet, or home—generic Information is to be articulated with access objective A2, student and staff access
- Campus orientation for beginning and first time students
  - ◊ Provide for access to the campus orientation over the Internet, intranet, kiosks, and from networked campus computers
  - ◊ Provide for an interactive Campus Orientation addressing campus services, campus instructional programs, general information about selecting a major, completing general education and graduation certificate requirements, the purpose of their counseling appointment, basic skill levels, how the placement test results are used, how to select courses from the class schedule, how to determine if a selected class is open, what to expect when they register, how to complete the orientation, and completing the evaluation
- Counseling Services
  - ◊ Display hours when counseling is open and appointments available—indicate walk-in hours
  - ◊ Display major requirements by year and type of degree AA or AS
  - ◊ Display the UC and/or CSU transferable course list
  - ◊ Display the IGETC and/or CSU GE list
  - ◊ Display catalog course descriptions
  - ◊ Display class schedule for current and coming semester
  - ◊ Display services offered by counseling
  - ◊ Display pictures of counselors, office hours, and areas of counseling specialization
  - ◊ Display major courses for selective majors such as Pharmacy, Physical Therapy, Nursing, etc.
  - ◊ Display admission requirements for selective campuses and/or programs
  - ◊ Provide for access by e-mail or fax
  - ◊ Provide for student access to their own transcript records
- Assessment Services
  - ◊ Display placement testing schedule
  - ◊ Display sample placement test items
  - ◊ Display testing services available
  - ◊ Provide for self-registration for placement testing

- ◊ Provide for access by e-mail or fax
- ◊ Provide for secure, monitored computer administered and scored placement testing

- Financial Aid
  - ◊ Display information about financial aid available and qualifications necessary
  - ◊ Provide for secure on-screen completion of an application for financial aid
  - ◊ Provide software to search for sources of financial aid by student characteristics and/or affiliations
  - ◊ Display sources of financial aid
  - ◊ Give suggestions for writing a "good" statement for financial aid application
  - ◊ Display hours for financial aid office

Non-generic (Interactive—requires a response)

- Orientation
  - ◊ Allow a student to complete orientation either before or after admission into the college
- Counseling
  - ◊ Allow student access to specific information from their files (classes completed, education plan)
  - ◊ Allow counselor to input information to student files
- Assessment
  - ◊ Allow student to be able to take the assessment exam at a designated computer terminal
  - ◊ Student can access their own test result information
- Financial Aid
  - ◊ Student will be able to check status of financial aid application
  - ◊ Student will be able to review file and documents
  - ◊ Student will be able to input information on selected forms

C—COST ESTIMATES TO IMPLEMENT

Orientation

- $10,000 for software per college
- Cost of software on the mainframe or Internet/intranet
- Hardware and software costs

Counseling

- $3,000 to $8,000 for online counseling

Assessment

- $7,000 to $100,000 to purchase or develop an assessment package per college
- Cost to tie to mainframe

Financial Aid

- BOG Waiver software package would run around $5,000 or more per campus. Changing over from Ed Tech to the WAN (Nslds) would have to be calculated by data processing. Also needed is a document control feature that will either be a component of our in-house financial aid processing system or we will have to purchase an outside software system (i.e. SAVERS----$$$$$)

D---ACTIONS

- Project team for objective A2 will be reviewing and working on this objective along with Student Services
  - ◊ Design the programs
  - ◊ Purchase software packages (FA/Orientation/Assessment)
  - ◊ Tie together purchased packages and mainframe

SUPPORT — OBJECTIVE S7

By August 1997, complete the design of the new registration system (on-line computer registration, telephone registration.)

- Priority A
- Responsibility to Expand—Bob Feinour and Audre Levy

A—REQUIREMENTS

- Students to be able to register, access grades, as well as conduct other routine Admissions and Records functions (add and drop classes, request transcripts, change demographic data, etc.) using telephone or computer
- The specifications for the telephone registration system have been approved by the board, purchased, and will be tested Spring of 1997

B—RECOMMENDED SOLUTIONS

- Evaluate and purchase the software
- Pilot the system
- Install hardware and software
- Train staff

C—COST ESTIMATES TO IMPLEMENT

- $150,000 for the district

D—ACTIONS

- EPOS software was purchased
- Design, pilot and implement system
- Expand and enhance systems
- Schedule training
- Piloted Fall Semester 1996 with changes made accordingly
- Full implementation Summer 1997

SUPPORT — OBJECTIVE S8

Automate capturing of student data: grades, timekeeper, positive attendance, enrollment verification so staff can access and report data using their own workstation

- By Spring 1997, automate current grade reporting
- By Summer 1998, automate academic timekeeper systems so staff can access and report data from their own workstations
  - Priority A
  - Responsibility to Expand—Bob Feinour, Appi Mishra, VP's, and instructors

A—REQUIREMENTS

- Client-server based
- Windows NT/95/3.11 compliant
- Secure environment
- Auditable
- Available 20 hours per day seven days a week
- Automatically update main databases
- Automatically post to Admissions and Records Imaging System
- Automatically post to Financial Aid system
- Year 2000 compliant
- WAN Service

B—RECOMMENDED SOLUTIONS

- Design system around Academic Timekeeper database
- Incorporate Academic Timekeeper functions
- Incorporate SSL (same security logic)
- Incorporate student/staff ID card

C—COST ESTIMATES TO IMPLEMENT

• Systems analysis and design	$30,000
• Hardware $235 per reader	7,050
• Infrastructure upgrades	12,000

D—ACTIONS

- Request funding outside the budget cycle
- Continue industry search for a turnkey system
- Move to the top of DP priority list
- Procedures to utilize grade reporting
- Design and implement

SUPPORT — OBJECTIVE S9

By 1999, enhance current storage of student records with an optical imaging technology capability.

- Priority C
- Responsibility to Expand—Audre Levy

A—REQUIREMENTS

- To purchase and incorporate an optical imaging system district-wide
- To use an image processing system for document storage and retrieval
- Information is to be scanned, stored, tied to a student file in the mainframe, and accessible from selected staff terminals

B—RECOMMENDED SOLUTIONS

- Evaluate and purchase appropriate hardware and software
- Install hardware and software
- Implement system
- Train staff

C—COST ESTIMATES TO IMPLEMENT

- The Optical imaging system costs around $90,000, paid for out of Title III for EVC. San Jose City College would also need the same system at a cost of approximately $90,000

D—ACTIONS

- At Evergreen Valley College, continue to expand utilization and document system
- For San Jose City College determine funding priority
- When funded, secure system using EVC experience as a guide
- Develop specifications for system
- Allocate resources
- Purchase system
- Install
- Tie to mainframe
- Pilot

SUPPORT — OBJECTIVE S10

By 1997, evaluate and recommend a scheduling system for classes and facilities.

- Priority A
- Responsibility to Expand—Bob Feinour, Appi Mishra, VP's and instructors

A—REQUIREMENTS

- Client/Server-based scheduling software to:
- Schedule classes on campus
- Schedule classes off campus
- Schedule facilities district-wide
- Provide seamless interface to current applications
- Provide seamless interface to Internet/intranet databases
- Provide historical/archive capability (audit trail)
- Maintain schedule integrity with 100 concurrent users
- Be NT certified

B—RECOMMENDED SOLUTIONS

- Evaluate software packages currently available
- Survey other community colleges and evaluate their approach to scheduling

C—COST ESTIMATES TO IMPLEMENT

- Unknown at this time. Scheduling packages range in price from $5700 for 100 concurrent users to $42,000 for 100 concurrent users
- Staff training—$2,000

D—ACTIONS

- Establish a combined team of users and Information Systems staff to evaluate and recommend products
- Purchase, install, implement, and train staff

SUPPORT — OBJECTIVE S11

By September 1, 1996, evaluate and select scheduling software for meetings, conferences, appointments (for students and staff), and conference rooms.

- Priority C
- Responsibility to Expand—Bob Feinour

A—REQUIREMENTS

- Appointments
- To Do list
- Reminders
- Meetings
- Contacts
- Events
- Printing
- Finding text
- Customizing Schedule+ (or Outlook) for the way you work
- Access permissions
- Importing and exporting
- Reference information
- WAN utility
- Year 2000 compliant

B—RECOMMENDED SOLUTIONS

- Adopt Microsoft product district-wide (Schedule+/Outlook)

C—COST ESTIMATES TO IMPLEMENT

- Training users, including documentation and distribution (see support objective S4, support staff)
- Software—None (Schedule+ is part of Microsoft Exchange)

D—ACTIONS

- Forward recommendation for adoption of Microsoft product (Schedule+/Outlook) to administration and campus
- Establish procedure to schedule conference and meeting rooms using this product
- Establish procedure to schedule committee and other meetings using this product

SUPPORT — OBJECTIVE S12

By June 1997, provide network-wide access to a centralized automated information retrieval system.

- ♦ Priority C
- ♦ Responsibility to Expand—Bob Feinour

A—REQUIREMENTS

- Centralized automated information repository
- WAN utility
- CD-ROM capable
- Compatible with Admissions and Records and Financial Aid optical imaging system
- CD Catalog
- CD Status
- CD Meter
- CD Script
- CD Launch
- Multi-platform support Windows and Mac clients

B—RECOMMENDED SOLUTIONS

- Expand current Alchemy application district-wide—mainframe produce CD's

C—COST ESTIMATES TO IMPLEMENT

- Subscription costs (i.e., San Jose mercury News—$1000 a year for 1 to 5 concurrent users)
- State of California Education Code $365
- Infrastructure expansion $4000 per campus

D—ACTIONS

- Include this system as a WAN activity
- Coordinate CD sharing with campus libraries

SUPPORT—OBJECTIVE S13

By 1999, design an on-line bookstore system which will allow student text orders, processing of book vouchers, supplies.

- Priority C
- Responsibility to Expand—Mike Hill

A—REQUIREMENTS

- Ability for students and staff to electronically search status of texts required for a specific course and instructor including availability of the texts in the bookstore
- Ability for students and staff to electronically search a catalogue of supply items available in the bookstore
- Ability for faculty to electronically submit book orders for their classes
- Ability for students to order and pay for items electronically

B—RECOMMENDED SOLUTIONS

- Utilize Internet/intranet to establish a bookstore web presence
- Develop systems to allow interactive transactions

C—COST ESTIMATES TO IMPLEMENT

• Web site creation/installation	$5,000 to $10,000
• Interactive transactions	$20,000 to $35,000

D—ACTIONS

- Work with webmasters and Data Processing to establish web presence
- Identify and gather relevant information
- Develop procedures to keep current
- Obtain professional services to develop interactive transaction capability

LEARNING

Develop curriculum, instructional strategies and tools to enhance student learning through the use of technology

LEARNING — OBJECTIVE L1

By October 1997, develop a strategy for stimulating and supporting new ideas in instructional delivery to become leaders in education. This strategy shall address staff, consultants, conference attendance and participation.

- Priority A
- Responsibility to Expand—Technology Team faculty members and student member of technology team

A—REQUIREMENTS

- Provide new technology skills to faculty
- Develop instructional technology techniques for the classroom utilizing, but not limited to, the following:
  - simulation
  - animation
  - tutorials
  - group/peer talk
  - group/individual projects
  - distance learning
- Bring faculty up to speed in multimedia
- Provide faculty with competitive technology
- Provide faculty with training and support
- Provide appropriate physical location for multimedia system unit
- Provide an environment to encourage development of new projects

B—RECOMMENDED SOLUTIONS

- Develop innovative, cost-effective projects that employ technology and utilize alternative delivery systems
- Provide reassigned time to investigate, evaluate, design, develop, and assess the use and viability of technology for course offerings
- Require the reassigned faculty to share their expertise by mentoring other faculty and providing workshops
- Hire consultants to assist the faculty in the use of technology
- Attend and participate in conferences and workshops to learn the best practices of other groups and institutions

C—COST ESTIMATES TO IMPLEMENT

Campus workshops	$2,000
Conference attendance/teleconference	$8,000
District mini-grants for use of IT in the classroom	$10,000
Consultants	$10,000
Reassigned time	$40,000
Additional multimedia hardware	$8,000
Additional software	$5,000
Total cost for both colleges	$81,000

D—ACTIONS

- Announce and advertise during fall 1997 IID mandatory day
- By October 1, 1997, interested faculty will present proposals to Campus Technology Committees
- By October 15, 1997, the CTCs will interview and select participants and make recommendations to the presidents
- In spring 98 and fall 98, reassign the selected faculty to start development of course materials
- In December 1998, development of course materials to be completed and presented to the CTC's and appropriate dean
- At spring IID 1999, completed course materials will be presented to the campus community
- Reassigned faculty will mentor other faculty
- Evaluate for subsequent year funding

LEARNING — OBJECTIVE 1.2

By April 1998, develop a degree and certificate program in Instructional Technology.

- Priority A
- Responsibility to Expand—Henry Estrada, Henry Gee, Appi Mishra

A—REQUIREMENTS

- Initiate a competitive Instructional Technology degree and certificate program
- Transfer instructional strategies to faculty
- Educate staff of other institutions
- Recruit and retain students

B—RECOMMENDED SOLUTIONS

- Offer an Instructional Technology certificate program
- Offer an Instructional Technology degree program
- Develop Instructional Technology teachers
- Develop courses using Instructional Technology
- Institute process of on-going development of projects

C—COST ESTIMATES TO IMPLEMENT

- Staff time
- Activities
  - Advisory committee $1,000
  - Marketing Program (annual fee) $10,000

D—ACTIONS

- Form an advisory committee of professionals drawn from business, industry and academia
- Identify classroom and equipment needs
- Establish partnerships with other IT institutions for possible resource sharing
- Present proposed courses to the All College Curriculum Committee
- Conduct IID workshops for information dissemination
- Begin offering the certificate program at EVC in the fall of 1999
- Articulate courses with San Jose State University and San Francisco State University
- Investigate other institutions with similar programs

LEARNING — OBJECTIVE L3

By Spring 1999, develop a focused program to support interactive multi-media in the classroom. This shall include hardware, software, facilities, support, skills, etc.

- Priority A
- Responsibility to Expand—Campus Technology Committees and Technology Team faculty members

A—REQUIREMENTS

- Support from subject matter experts for multimedia in the classroom
- Technical support for application and systems
- Physical facilities suitable for multimedia presentations
- Provide staff with competitive technology, training and support

B—RECOMMENDED SOLUTIONS

- Monitor and measure effectiveness of student learning objective L1, new instructional delivery
- Implementation of student learning objective L2, Instructional Technology degree/certificate program, as a vehicle for staff development
- Identify appropriate hardware and software
- Identify instructional applicability

C—COST ESTIMATES TO IMPLEMENT

- Costs to be determined after first phase of student learning objective L1

D—ACTIONS

- To be determined after first phase of student learning objective L1
- See support objective S4, support staff

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